REMARKS

Claim 6, as amended, and claims 1, 7-9, and 11-13 are pending in this application. No new matter has been added as a result of the above-described amendments to the specification and claims. The rejections set forth in the Office Action have been overcome by amendment or are traversed by argument below.

1. Drawings

The Action objected to Figure 1 because the specification did not indicate what #2, #6, #7, and #1 represent. In addition, the Action objected to Figures 2-3 because the specification did not provide a description of the number values in figures.

The specification has been amended to overcome these objections. Support for the amendments can be found in the specification at page 80, line 27 to page 81, line 1; page 79, line 26 to page 80, line 5; and in Figures 2 and 3 of U.S. Provisional Application No. 60/144,797, filed July 21, 1999, from which the instant application claims the benefit of priority and which was incorporated by reference into the instant application.

2. Rejection of claims 6 and 11 under 35 U.S.C. § 102

Claims 6 and 11 stand rejected as being anticipated by Salton (1991). Claim 6 encompasses fusion proteins consisting of SEQ ID NO: 7 and heterologous sequences. Salton teaches the native NGF33.1 nucleic acid and amino acid sequence, which comprises the amino acid sequence of SEQ ID NO: 7. While Salton does not teach fusion proteins comprising SEQ ID NO: 7, the Action asserts that all additional sequences that are fused to SEQ ID NO: 7 are heterologous sequences by definition. Applicants respectfully traverse.

Specifically, Applicants contend one of skill in the art will recognize that a protein comprising a sequence that is connected to a sequence with which it is joined in nature is not a fusion protein. Furthermore, the specification at page 19, line 28 to page 20, line 7 provides specific examples of suitable heterologous sequences, which include, but are not limited to:

> an epitope to allow for the detection and/or isolation of a VGF fusion polypeptide; a transmembrane receptor protein or a portion thereof, such as an extracellular domain or a transmembrane and intracellular domain; a ligand or a portion thereof which binds to a transmembrane receptor protein; an enzyme or portion thereof which is

McDonnell Boehnen Hulbert & Berghoff
300 South Wacker Drive, Ste. 3200
Chicago, Illinois 60606
(312) 913-0001

> catalytically active; a polypeptide or peptide which promotes oligomerization, such as a leucine zipper domain; a polypeptide or peptide which increases stability, such as an immunoglobulin constant region; and a polypeptide which has a therapeutic activity different from the VGF polypeptides of the present invention.

Thus, the specification teaches that heterologous sequences in fusion proteins of the invention correspond to particular proteins or fragments thereof that are not naturally joined to SEQ ID NO: 7. One of skill in the art, particularly in light of the teachings found in the specification, would recognize that Salton is not teaching SEQ ID NO: 7 fused to heterologous sequences. Rather, Salton is merely presenting the native rat VGF/NGF33.1 sequence. The sequence taught by Salton does not fall within the scope of claim 6, because it does not consist of heterologous sequences fused to SEQ ID NO: 7. Thus, Salton does not anticipate claim 6. However, in an effort to expedite prosecution of the pending claims to allowance, Applicants have amended claim 6 to recite that "the heterologous sequence is not joined to the polypeptide of Claim 1 in nature." Consequently, reconsideration and withdrawal of this ground of rejection is therefore respectfully requested.

The Action further asserts Salton anticipates claim 11 because Salton's polypeptide is covalently attached to water-soluble amino acid residues. Claim 11 encompasses the polypeptide of claim 1, which consists of the amino acid sequence as set forth in SEQ ID NO: 7, covalently modified with a water-soluble polymer. Applicants respectfully point out that Salton does not teach the polypeptide of claim 1. Rather Salton teaches the NGF33.1 sequence, which comprises SEQ ID NO: 7. Salton does not disclose or describe SEQ ID NO: 7 covalently modified with a water-soluble polymer. Since Salton does not teach the polypeptide of claim 1, Salton does not anticipate claim 11. Reconsideration and withdrawal of this ground of rejection is therefore respectfully requested.

CONCLUSION

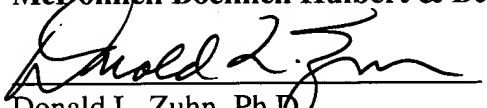
Applicants respectfully contend that all conditions of patentability are met in the pending claims as amended. Allowance of the claims is thereby respectfully solicited.

If Examiner Hayes believes it to be helpful, he is invited to contact the undersigned representative by telephone at (312) 913-0001.

McDonnell Boehnen Hulbert & Berghoff
300 South Wacker Drive, Ste. 3200
Chicago, Illinois 60606
(312) 913-0001

Respectfully submitted,
McDonnell Boehnen Hulbert & Berghoff

Dated: December 23, 2002

By: 
Donald L. Zuhn, Ph.D.
Reg. No. 48,710

McDonnell Boehnen Hulbert & Berghoff
300 South Wacker Drive, Ste. 3200
Chicago, Illinois 60606
(312) 913-0001

AMENDMENTS TO THE SPECIFICATION

Marked Up Version of Replacement Paragraphs of Specification under 37 C.F.R. 1.121(b)(1)(iii)

Please amend the paragraphs at page 6, lines 9-17 as follows:

Figure 1 illustrates the body weight of VGF knockout mice (#2, #6, #7, and #1) following administration of VGF-1a (SEQ ID NO: 2). The administration of VGF-1a was ceased at day 5 (as indicated by the arrow);

Figure 2 illustrates the antibody titer levels of a rabbit injected with VGF-1 (SEQ ID NO:1), calculated at 1:100 to 2x serial dilution; A represents samples measured at 4 weeks after initial injection, B represents samples measured at 6 weeks after initial injection, C represents samples measured at 8 weeks after initial injection, and D-H represent samples measured from control animals that were injected with normal rabbit serum (NR); numbers 1-12 represent samples at various serial dilutions (1:100 to 2x);

Figure 3 illustrates the antibody titer levels of a rabbit injected with VGF-2 (SEQ ID NO:4), calculated at 1:100 to 2x serial dilution; A represents samples measured at 4 weeks after initial injection, B represents samples measured at 6 weeks after initial injection, C represents samples measured at 8 weeks after initial injection, and D-H represent samples measured from control animals that were injected with normal rabbit serum (NR); numbers 1-12 represent samples at various serial dilutions (1:100 to 2x).

Please amend the paragraph at page 79, line 26 to page 80, line 5 as follows:

The syringe was connected with an 18-gauge mixing needle and the solution was mixed to emulsify. The mixture was then transferred to two 1 ml syringes for intramuscular injection into rabbits. Rabbits were injected with 0.1 ml of VGF polypeptide/adjuvant solution at 2 injection sites, and the rabbits were then boosted at 4 weeks and 6 weeks thereafter. Rabbits

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300 South Wacker Drive, Ste. 3200
Chicago, Illinois 60606
(312) 913-0001

were test bled (removing approximately 5 ml) following the second boost and then test bled again after two weeks. If the production bleeds were deemed acceptable, rabbits were boosted again and then bled once a week for six weeks (removing approximately 40 ml) two weeks after this boost. Figures 2 and 3 illustrate the antibody titer levels of rabbits injected with either VGF-1 or VGF-2.

McDonnell Boehnen Hulbert & Berghoff
300 South Wacker Drive, Ste. 3200
Chicago, Illinois 60606
(312) 913-0001

AMENDMENTS TO THE CLAIMS

Marked Up Version of Amended Claims under 37 C.F.R. 1.121(c)(1)(ii)

6. (Twice Amended) A fusion polypeptide consisting of the polypeptide of Claim 1 fused to a heterologous amino acid sequence, wherein the heterologous sequence is not joined to the polypeptide of Claim 1 in nature.

McDonnell Boehnen Hulbert & Berghoff
300 South Wacker Drive, Ste. 3200
Chicago, Illinois 60606
(312) 913-0001